

REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, each of claims 1, 3 and 5 has been amended to recite that the layered interconnection structure includes a copper or platinum film and a neighboring film located at, *inter alia* adjacent the copper or platinum film.

Applicants are also adding new claims 13 and 14 to the application. These new claims 13 and 14 define a semiconductor device having a layered interconnection structure, the layered interconnection structure overlying an insulating film overlying a surface of the semiconductor substrate, with this layered interconnection structure including a copper film and a neighboring film located between the copper film and the insulating film, the neighboring film having as a primary constituent element thereof, an element selected from the group consisting of rhodium, ruthenium, iridium, osmium and platinum.

The Examiner is thanked for allowance of claims 9-12, in the Office Action mailed October 21, 2002.

The Examiner has rejected claims 1-6, in the Office Action mailed October 21, 2002, under the second paragraph of 35 USC § 112, as being indefinite. In this regard, the Examiner contends that claims 1, 3 and 5 do not particularly point out that the neighboring film is adjacent to (or in contact with) the copper or platinum film.

Applicants have amended each of claims 1, 3 and 5 to recite that the neighboring film is, *inter alia*, adjacent a copper or platinum film, thus rendering moot the rejection of claims 1-6 under the second paragraph of 35 USC §112.

The Statement by the Examiner of reasons for the indication of allowable subject matter, set forth in Item 4 on page 3 of the Office Action mailed October 21, 2002, is noted. Compare with newly added claims 13 and 14, each reciting that the layered interconnection structure has a copper film and a neighboring film located between the copper film and the insulating film, a primary constituent element of this neighboring film being defined consistent with the listing of elements in Item 4 on page 3 of the Office Action mailed October 21, 2002. Noting this Statement by the Examiner, it is respectfully submitted that claims 13 and 14 should also be allowable.

In view of the foregoing comments and amendments, reconsideration and allowance of all claims remaining in the application are respectfully requested.

Attached hereto is a marked-up version of the changes made to claims by the current Amendment. The changes are shown on the attached pages, the first page of which is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

To the extent necessary, Applicants petition for an extension of time under 37 CFR § 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account No. 01-2135 (Case No. 501.36931CX1) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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“VERSION WITH MARKINGS TO SHOW CHANGES MADE”

1. (Amended) A semiconductor device having a layered interconnection structure including a copper film overlying a surface of a semiconductor substrate, wherein the layered interconnection structure includes the copper film and a neighboring film located at at least one of (a) [overlying] adjacent the copper film and (b) between the copper film and the semiconductor substrate, the neighboring film having, as a primary constituent element thereof, an element selected from a group consisting of rhodium, ruthenium, iridium, osmium and platinum, wherein the neighboring film substantially prevents voids due to electromigration of copper.

3. (Amended) A semiconductor device having a layered interconnection structure including a platinum film overlying a surface of a semiconductor substrate, wherein the layered interconnection structure includes the platinum film and a neighboring film located at at least one of (a) [overlying] adjacent the platinum film and (b) between the platinum film and the semiconductor substrate, the neighboring film having, as a primary constituent element thereof, an element selected from a group consisting of rhodium, ruthenium, iridium and osmium, wherein the neighboring film substantially prevents voids due to electromigration of the platinum.

5. (Amended) A semiconductor device having a layered interconnection structure including a platinum film overlying a surface of a semiconductor substrate, wherein the layered interconnection structure includes the platinum film and a neighboring film located at at least one of (a) [overlying] adjacent the platinum film and (b) between the platinum film and the semiconductor substrate, the neighboring film

including an element selected from a group consisting of rhodium, ruthenium, iridium and osmium, wherein the neighboring film substantially prevents voids due to electromigration of the platinum.